United States Department of Agriculture | Forest Service | Southwestern Region | 517 Gold Avenue SW. Albuquerque, NM 87102

Reply to: 3420 **Date:** August 3, 1987

Subject: Western Spruce Budworm

To: Forest Supervisor, Lincoln National Forest

During May 8-12, 1987, Forest Pest Management personnel, Dayle Bennett and Mike Chavez, conducted a western spruce budworm (WSB) larval density survey on portions of the Lincoln National Forest and Mescalero Apache Indian lands. This was the third, in a series of annual surveys, whose objectives are to: (1) Document the lasting effects of the 1984 WSB Suppression Project (see our Forest Pest Management Report 85-11); (2) detect if, and when, the population increases to outbreak levels; and (3) monitor WSB population trends in the unsprayed areas around Ruidoso.

Of the original 25 spray blocks, the following ten were sampled in 1984, 1985, 1986, and again in 1987: Baird, Cloudcroft, Cooley, Firman, James Canyon, La Luz, Pumphouse, Sawmill, Turkey Pen and Wayland. Areas around Ruidoso were sampled only in 1986 and 1987. Sampling of these areas was based on information and management concerns previously provided by you and your staff.

Sampling methods were the same as those detailed in past reports (see our 3420 letter dated June 9, 1986). Ten plots were sampled within each block (five in Cooley, due to access limitations, and eight around Ruidoso). Approximate plot locations are shown in Figures 1-3. All plots were sampled in 1984 and 1985. Only the odd numbered plots were sampled in 1986. Plots sampled in 1987 have been circled on the enclosed figures. At each plot sampled, WSB populations were measured and expressed as the number of WSB per 100 buds of current years foliage.

Results of this survey, presented in the enclosed table, show mean larval densities for 1987 are still at extremely low levels within the treated blocks (0.0 to .31 per 100 buds). This indicates objectives of the 1984 Suppression Project continue to be met and that no visible defoliation will occur in these areas in 1987. Furthermore, we expect the population to remain at this low level at least through 1988. Therefore, we recommend not sampling the treatment areas again until 1989, then at 2-year intervals until the population begins to increase.

WSB population levels in the untreated areas around Ruidoso averaged 6.4 per 100 buds in 1987, less than half that found in 1986 at 14.8 per 100 buds. While the population level has apparently dropped in these areas, it is still sufficiently high to cause some light defoliation in 1987 and has the potential, under

favorable conditions, to increase to much higher levels and result in increased defoliation in 1988. If this area is of concern to you, we recommend continued annual sampling to monitor the WSB population trend; otherwise, we will also delay sampling around Ruidoso until 1989.

Please advise us if you concur with these recommendations. If not, please indicate which areas you feel require continued annual sampling.

Douglas L. Parker

DOUGLAS L. PARKER
Director of Forest Pest Management

cc:
Area Director, BIA, Albuquerque
Agency Forester, Mescalero Apache IR, Mescalero

Sampling Unit	1984 Post Treatment Larval Estimate		1985 Larval Estimate		1986 Larval Estimate		1987 Larval Estimate	
	Sample Size	Larvae/100 buds +S.E.	Sample Size	Larvae/100 buds +S.E.	Sample Size	Larvae/100 buds +S.E.	Sample Size	Larvae/100 buds +S.E.
roft	23	5.24 ± 0.59	17	0.29 ± 0.10	13	0.33 ± .45	10	0.10 ± .10
La Luz	25	8.54 ± 0.88	16	0.40 ± 0.18	13	0.10 ± .21	10	0.0
James Canyon	25	3.74 ± 1.27	20	0.36 ± 0.11	13	0.14 ± .09	10	0.07 ± .07
Turkey Pen	25	1.77 ± 0.37	10	0.28 ± 0.12	13	0.08 ± .18	10	0.0
Firman	25	3.05 ± 0.63	10	0.30 ± 0.25	13	0.0	10	0.0
Pumphouse	25	7.30 ± 1.8	11	0.42 ± 0.16	13	0.0	10	0.0
Wayland	25	7.16 ± 1.11	22	0.25 ± 0.08	13	0.34 ± .21	10	0.31 ± .18
Sawmill	25	0.84 ± 0.22	17	0.26 ± 0.10	13	0.05 ± .1	10	0.09 ± .09
Scott Able	25	4.14 ± 0.95	4	1.47 ± 0.17	NOT SAMPLED		NOT SAMPLED	
Baird	14	3.50 ± 0.56	13	0.13 ± 0.06	13	0.1 ± .15	10	0.0
Cooley	13	1.91 ± 0.30	7	0.06 ± 0.06	14	0.08 ± .11	5	0.0
Ruidoso	NOT SAMPLED		NOT SAMPLED		8	14.81 ± 4.67	8	6.35 ± 1.34

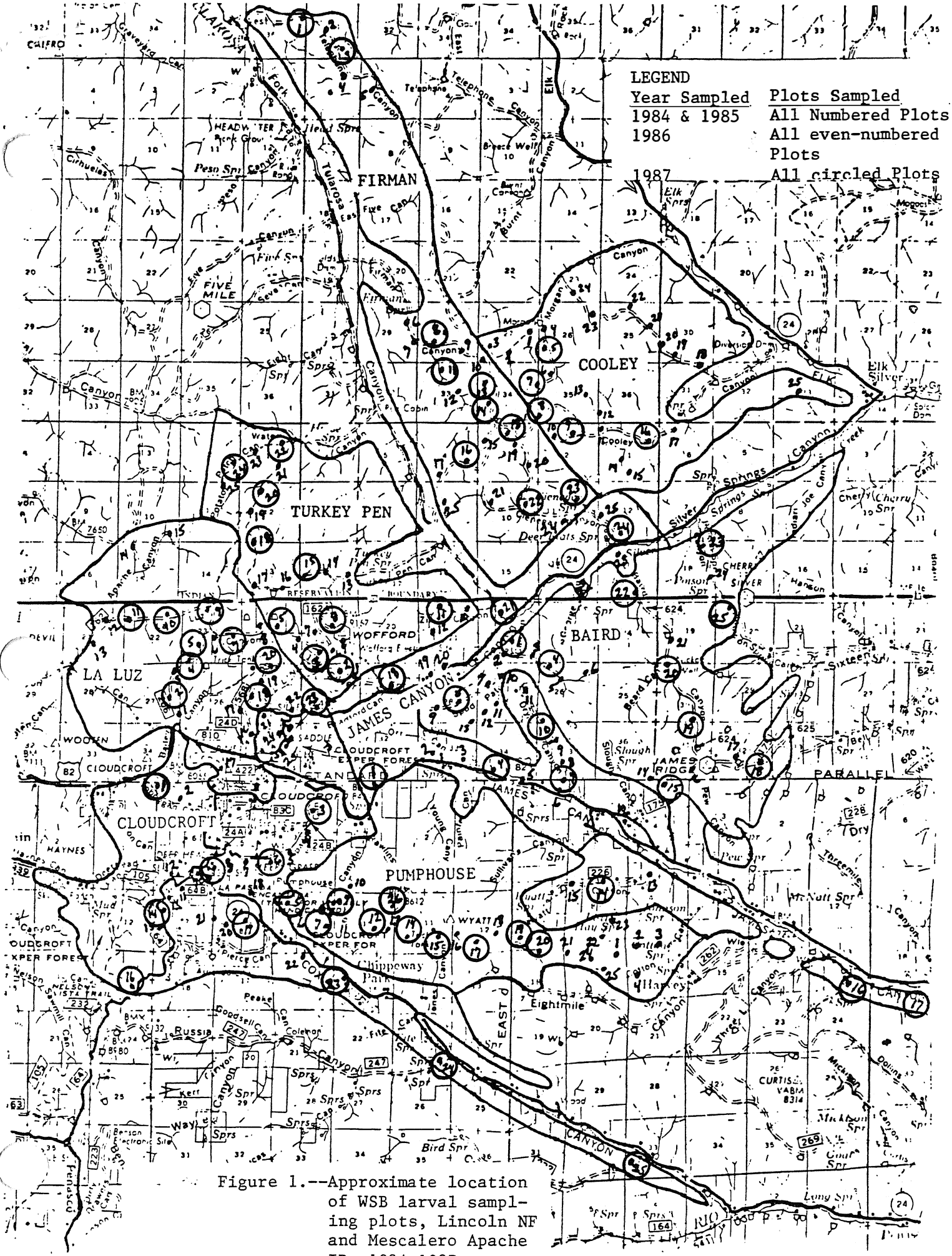


Figure 1.--Approximate location of WSB larval sampling plots, Lincoln NF and Mescalero Apache IR, 1984-1987.

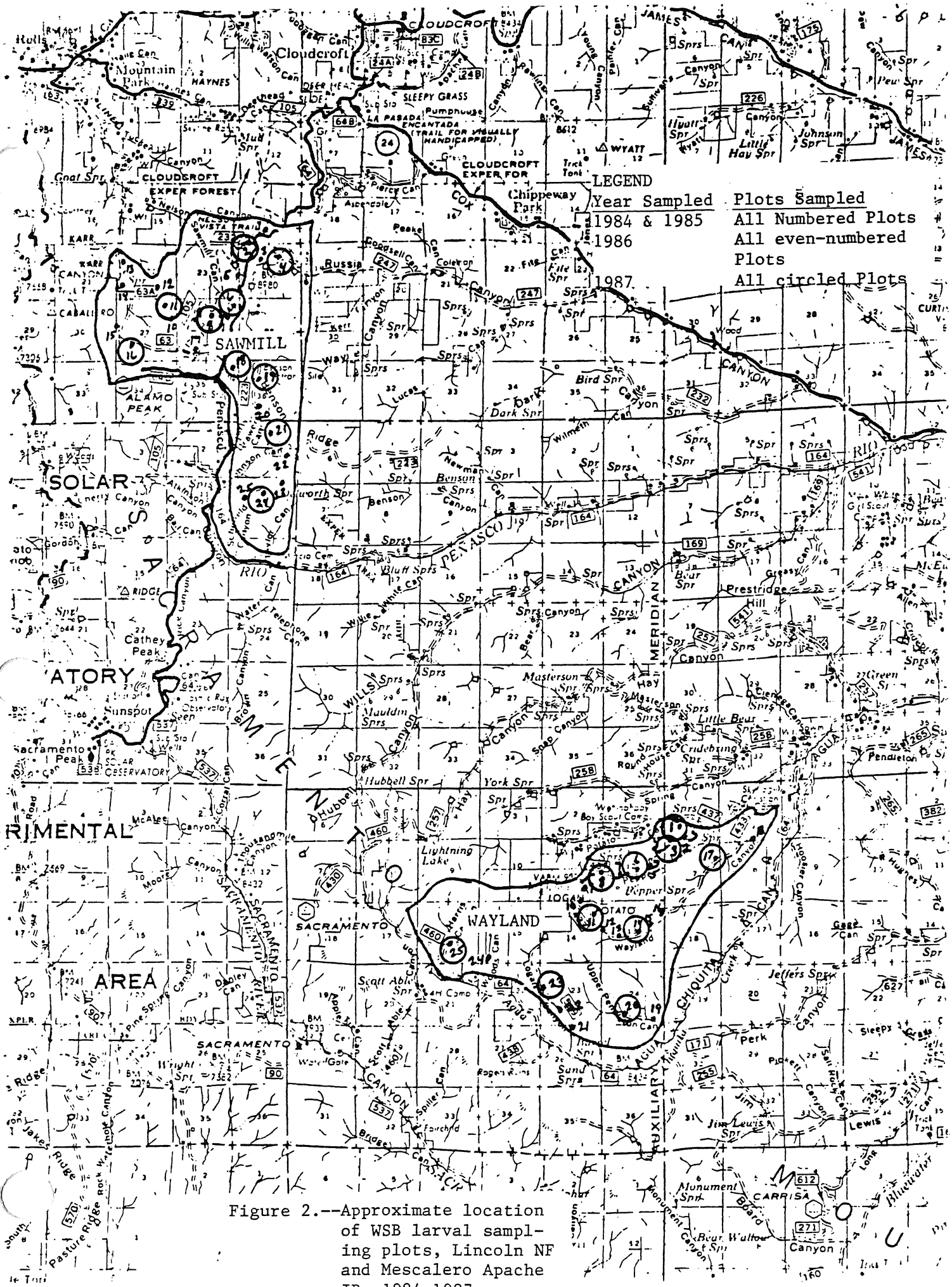
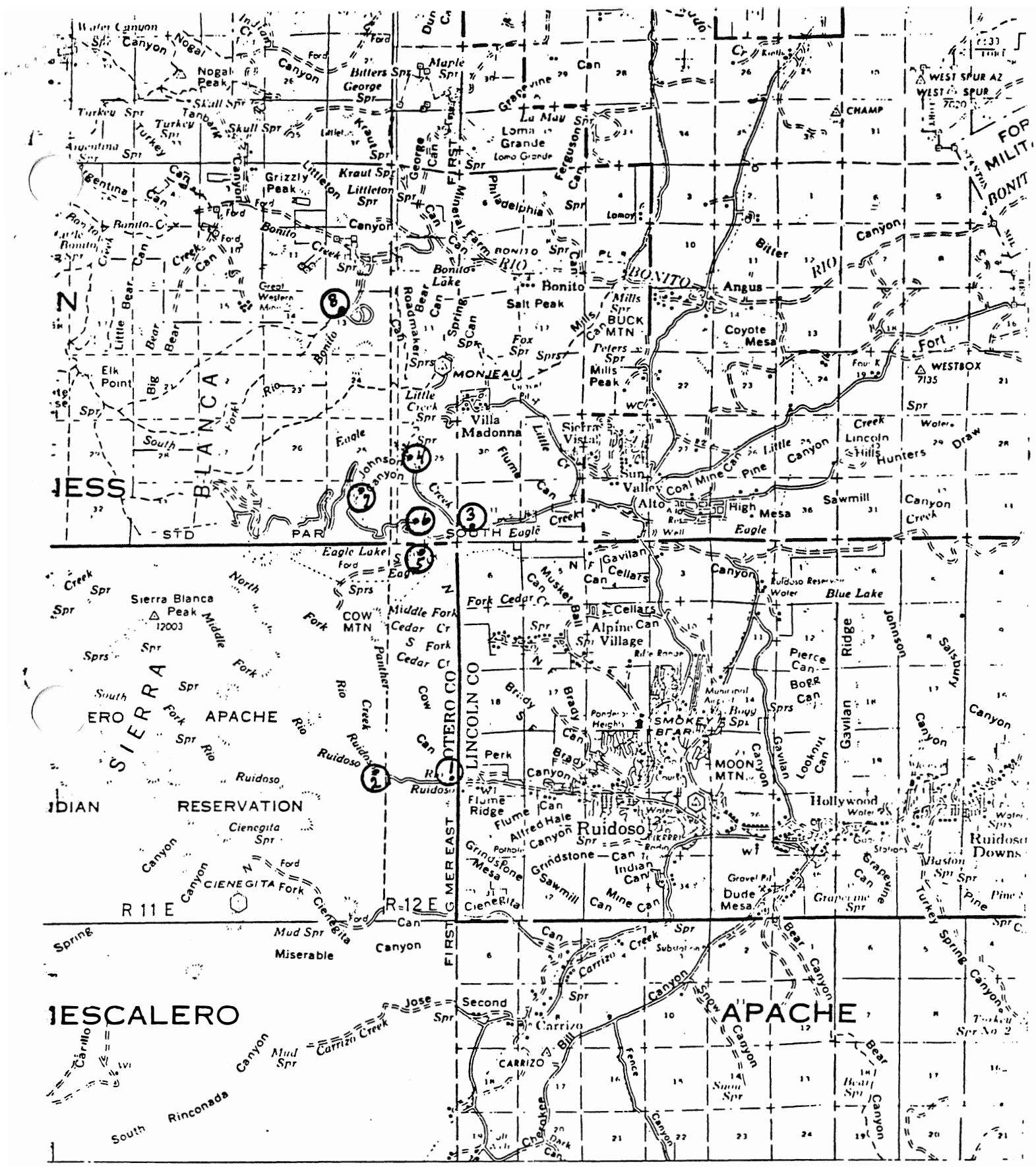


Figure 2.--Approximate location of WSB larval sampling plots, Lincoln NF and Mescalero Apache IR, 1984-1987.



Figre 3.--Approximate location of WSB larval sampling plots, Lincoln NF and Mescalero Apache IR, 1986 and 1987.